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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ROARK, JESSICA H

ART UNIT	PAPER NUMBER
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1644

DATE MAILED: 05 20 2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/234,182

Applicant(s)

HSEI ET AL.

Examiner

Jessica H. Roark

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 19-22, 26-29 and 31-36 is/are pending in the application.
- 4a) Of the above claim(s) 2-4, 6, 7, 20, 22 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 19, 21, 26, 28, 29 and 31-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 1999 and 13 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) ☒ The proposed drawing correction filed on 13 February 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Art Unit: 1644

RESPONSE TO APPLICANT'S AMENDMENT

1. The Examiner of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Jessica Roark, Art Unit 1644, Technology Center 1600.

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/27/02 has been entered.

3. Applicant's amendment, filed 2/27/02 (Paper No. 22), is acknowledged.

Claim 1 has been amended.

Claims 8-18, 23-25 and 30 have been cancelled previously.

Claims 1-7, 19-22, 26-29 and 31-36 are pending.

Claims 2-4, 6-7, 20, 22 and 27 stand withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b) as being drawn to a nonelected invention, election having been confirmed without traverse in Paper No. 15.

Claims 1, 5, 19, 21, 26, 28-29 and 31-36 are under consideration in the instant application.

4. The text of those sections of Title 35 USC not included in this Action can be found in a prior Action.

This Office Action will be in response to applicant's arguments, filed 2/27/02 (Paper No. 22).

The rejections of record can be found in the previous Office Action (Paper No. 17).

It is noted that New Grounds of Rejection are set forth herein.

5. Provisional application 60/074,330 appears to provide adequate written support for the instant claims; thus the effective filing date of the instantly pending claims is considered to be 1/22/98.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention *to which the claims are directed*.

It is suggested that Applicant delete "AND HUMANIZED ANTI-IL-8 MONOCLONAL ANTIBODIES".

Art Unit: 1644

7. Drawings have been submitted which fail to comply with 37 CFR 1.84. Please see the enclosed form PTO-948.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

A. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

B. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

*Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.185(a). Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.*

8. Applicant's IDSs, filed 6/8/99, 10/26/99 and 12/22/99 (Paper Nos. 4, 5 and 6), are acknowledged. Applicant's comment's with respect to the availability of the references in co-pending application 09/121,952 are noted.

However, co-pending USSN 09/121,952 was not available to the Examiner for consideration. The Examiner has supplied the referenced U.S. Patents and the WO documents listed on the submitted forms PTO-1449 and considered them, as indicated on the attached copies, along with certain of the non-patent literature references.

Applicant is again invited to re-supply the missing references so that the non-patent references may be considered.

9. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which Applicant may become aware in the specification.

Applicant is requested to amend the address of the ATCC provided on page 207 at line 9 and page 241 at line 8 to reflect the current address of the American Type Culture Collection: 10801 University Boulevard, Manassas, VA 20110-2209

Art Unit: 1644

10. The previous rejection of claims 1, 5, 19, 21, 26, 28, 29 and 31-36 under 35 U.S.C. 112, first paragraph, *written description*, is withdrawn in view of the limitation in claim 1 to a single PEG molecule attached at specific site (the heavy or light chain cysteine normally involved in the interchain disulfide bridge between antibody Fab' fragment heavy and light chains).

11. Claims 1, 5, 19, 21, 26, 28-29 and 31-36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide a sufficiently enabling description of the claimed invention. Although several conjugates of antibodies and antibody fragments to PEG are disclosed in the specification (e.g., the conjugation of a single PEG to the free thiol of the unpaired cysteine at the COOH terminus of the Fab' fragment, as disclosed on pages 216-220 of the specification); the instant claims require limitations in terms of number and placement of the covalent attachments that do not appear to be supported in the specification as filed by a sufficiently enabling disclosure.

In particular, the instant claims require that the recited Fab' fragment be covalently attached to a *single PEG*. The expression vector disclosed in the specification for use in producing an Fab' fragment is derived from human IgG1 and has a free cysteine at the carboxy terminus of the heavy chain (see page 216). As disclosed in the example on pages 216 to 220, it is this cysteine at the carboxy terminus of the Fab' fragment that was used in the working example of pages 216-220 of the specification to couple a single PEG molecule to the Fab' of interest. The human IgG1 Fab' structure permits coupling of a single PEG because only the cysteine at the carboxy terminus is available for the coupling reaction - the other cysteines present in the heavy and light chain components of the Fab' fragment are involved in either intrachain or interchain disulfide bridges (e.g., see the schematic representation of the five classes of human immunoglobulins in Figure 14 of Chapter 9 of "Fundamental Immunology", Second Edition, W.E. Paul editor, Raven Press Ltd., New York, 1989, page 225).

The instant claim language requires that, although the single antibody Fab' fragment must be covalently attached to a single PEG, the Fab' fragment also is modified so that a cysteine ordinarily involved in the formation of the heavy-light chain interchain disulfide bridge is covalently coupled to the PEG. However, an Fab' fragment as recited has *two* reactive cysteines, rather than one, and the skilled artisan would not reasonably expect that such a modified Fab' fragment could be coupled to only a *single* PEG, as required in the instant claims. The specification does not appear to provide sufficient guidance as to how only a single PEG, as currently recited, may be covalently coupled to the recited Fab' fragment having two reactive cysteines. The specification does not disclose, and the state of the art at the time the invention was made did not recognize, methodology for protecting the free cysteine already present in the Fab' fragment so that PEG may be coupled only to an "interchain" cysteine. Thus it would require undue experimentation of the skilled artisan to determine how to covalently couple a *single* PEG to an Fab' fragment in which one of the cysteines which ordinarily forms a disulfide bridge with another cysteine present in the opposite chain (i.e., using a cysteine ordinarily part of the heavy-light interchain disulfide bridge) is required by the claim language to be covalently coupled.

Art Unit: 1644

12. Applicant's amendment, filed 2/27/02, has obviated the previous rejection of claims 1, 5, 19, 21, 26, 28, 29 and 31-36 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. It is noted that the specification on page 25 at lines 13-22 defines the term "apparent size" as limited to the size of a molecule as determined using size exclusion chromatography and comparing to a standard curve produced using globular protein molecular weight standards.

14. Claims 1, 5, 19, 21, 26, 28-29 and 31-36 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,133,426 (of record).

Applicant's arguments, filed 2/27/02 have been fully considered but have not been found persuasive.

The rejection of record may be found in Paper No. 17.

Applicant argues that the '426 patent is not available as a reference under 35 USC 102(e) because both the '426 patent and the instant application claim priority to provisional application 60/074,330.

While the Examiner acknowledges that both the instant claims and the subject matter at issue in the '426 patent are entitled to the filing date of 60/074,330. However, the '426 patent also claims priority to 60/038,664, which has a filing date of 2/21/1997. Thus U.S. Pat. No. 6,133,426 at present appears to have an effective filing date of 2/21/1997.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). It is however noted that the applied reference has a common inventor with the instant application. This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The amendment to claim 1 filed 2/27/02 does not alter the rejection of record. The rejection is therefore maintained.

15. Claims 1, 5, 19, 21, 26, 28-29 and 31-36 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,025,158 (of record).

Applicant's arguments, filed 2/27/02 have been fully considered but have not been found persuasive.

The rejection of record may be found in Paper No. 17.

Applicant argues that the '158 patent is not available as a reference under 35 USC 102(e) because both the '158 patent and the instant application claim priority to provisional application 60 074,330.

Art Unit: 1644

While the Examiner acknowledges that both the instant claims and the subject matter at issue in the '158 patent are entitled to the filing date of 60/074,330. However, the '158 patent also claims priority to 60/038,664, which has a filing date of 2/21/1997. Thus U.S. Pat. No. 6,025,158 at present appears to have an effective filing date of 2/21/1997.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). It is however noted that the applied reference has a common inventor with the instant application. This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The amendment to claim 1 filed 2/27/02 does not alter the rejection of record. The rejection is therefore maintained.

16. Applicant's arguments, filed 2/27/02, are found convincing with respect to the previous rejection of instant claims 1, 5, 19, 21, 26, 28-29 and 31-36 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of US Pat. No. 6,133,426 (of record). The rejection is withdrawn.

17. Applicant's comments as to the common ownership of the instantly claimed invention and the invention claimed in US Pat. No. 6,133,426 (of record) at the time the invention in this application was made are acknowledged.

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1644

19. Claims 1, 5, 19, 21, 31-35 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5, 13, 15-16, 18, 19, 21, 24, 26, 29, 32-37 of copending Application No. USSN 09/489,394. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '394 application recite all the limitations recited in the instant claims, indicating that the limitations set forth in the instant claims were obvious embodiments of the invention claimed in USSN 09/489,394.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

20. Claims 1, 5, 19, 21, 31-35 are directed to an invention not patentably distinct from claims 1, 5, 13, 15-16, 18, 19, 21, 24, 26, 29, 32-37 of commonly assigned USSN 09/489,394 for the reasons set forth supra.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned USSN 09/489,394, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

21. Claims 1, 5, 19, 21, 26, 28-29 and 31-35 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5, 8, 12-19, 21, 24-26 and 28-35 of copending Application No. USSN 09/726,258. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '258 application recite all the limitations recited in the instant claims, indicating that the limitations set forth in the instant claims were obvious embodiments of the invention claimed in USSN 09/726,258.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

22. No claim is allowed.

Art Unit: 1644

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica Roark, whose telephone number is (703) 605-1209. The examiner can normally be reached Monday to Friday from 8:00 to 4:30. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached at (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Jessica Roark, Ph.D.
Patent Examiner
Technology Center 1600
May 16, 2002

Phillip Gambel

PHILLIP GAMBEL, PH.D

PRIMARY EXAMINER

TC 1600

5/17/02